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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

LITHGOW, THOMAS M

ART UNIT	PAPER NUMBER
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1724

DATE MAILED: 02/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/631,822

Applicant(s)

LANGE, NEVILLE ERNEST

Examiner

Thomas M. Lithgow

Art Unit

1724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) 5,7-9 and 18-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,6,10-17 and 23-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 03 Nov 2003.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____


THOMAS M. LITHGOW
PRIMARY EXAMINER
GROUP 1700

DETAILED ACTION

1. Applicant's election without traverse of fig. 2 in the reply filed on 21 Oct 2005 is acknowledged. Claims 1-4,6,10-17 and 23-32 read on the elected specie. Claims 5,7-9 and 18-22 are non-elected.

Claim Rejections - 35 USC § 112

2. Claims 24 and 26-32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 24 line 5, "the eductor" has no antecedent basis. Claim 26, line 4, "the jet" has no antecedent basis. Claim 27, line 2, "the eductor outlet" lacks antecedent basis. Claim 29, lines 4-5, "the eductor" lacks antecedent basis. The other claims listed above are dependent from the rejected claims specifically identified herein.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-4, 10-13, 16-17 and 23-32 are rejected under 35

U.S.C. 102(b) as being anticipated by CA 2333797. CA '797 is the earlier published version of PGP 2001/0025808 cited by applicant. CA '797 discloses a fig. 3 embodiment in which there is a jet at 3 which carries liquid leading to a gas inlet chamber/area 4 followed by a curved section leading to a straight portion and then a radial diffuser 6. The device is located in a flotation cell. In regard to claim 25 and 29, the phrase "up to 15" includes zero as a lower limit. Claims 27-28 and 30-31 are functional with the disclosed structure of CA '797 being capable of such results.

5. Claims 1,3-4,10 and 29-32 are rejected under 35 U.S.C. 102(b) as being anticipated by O'Cheskey (US 4255262) or Cairo (US 4564457).

O'Cheskey '262 discloses a fig. 3 embodiment in which liquid is passed through nozzle 38 and contacted with air via tube 30 followed by a straight portion then to a radial diffuser with an impingement plate 50. In claim 1, it is noted that the phrase "clean liquid (as defined)" is merely an intended use which carries no patentable weight. This also applies to the preamble "for introducing ...cell". Cairo '457 discloses a flotation tank with nozzle 52

carrying liquid which draws in gas from eductor 35 followed by a radial diffuser 37.

6. Claims 1,3-4, 10 and 29-32 are rejected under 35 U.S.C. 102(b) as being anticipated by Zlokarnik (US 4162971). Zlokarnik '971 discloses a fig. 13 embodiment of an eductor for mixing a liquid 6 with a gas 5 and aerating an aqueous suspension [col. 4, lines 40+].

7. Claims 1-4; 10-12, 16-17 and 23-32 are rejected under 35 U.S.C. 102(b) as being anticipated by Lynch (US 4337152). Lynch '152 discloses an aeration apparatus including an embodiment of fig. 3,5 and 6 which has the mixing nozzle 17 and swash plate 12 of fig. 1. The flotation aspect of claim 11 would typically involve a tank and an aerator which Lynch '152 discloses.

8. Claims 1-4, 10 and 29-32 are rejected under 35 U.S.C. 102(b) as being anticipated by WO 00/78466. WO '466 discloses a gas liquid eductor having a liquid nozzle 14, a gas inlet 16 and a radial diffuser 18.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over CA '797 as applied to claim 1 above, and further in view of either one of Schweiss (US 4477341) or GB 2130920. The use of an impingement plate which is of greater diameter than the "upper wall" is taught by either of Schweiss (US 4477341) or GB 2130920. Such an arrangement would direct the radial flow in a slightly upward manner as the bottom direction is blocked by the plate. Such a flow pattern may be desirable in some circumstances for example in flotation which is common to all of the above three patents. Therefore to employ the well-known feature of having a larger impingement plate as taught by the prior art in CA '797 would have been obvious to one of ordinary skill in the art.

Allowable Subject Matter

11. Claims 14-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas M. Lithgow whose telephone number is 571-272-1162. The examiner can normally be reached on Mon. -Fri..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on 571-272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Thomas M. Lithgow
Primary Examiner
Art Unit 1724

TML